

2. (Currently Amended) ~~An electron source forming~~ A substrate provided with ~~an insulating material layer on a surface of a substrate, at which surface structure~~ which is a precursor to an electron source, and on which an electron emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; and

an insulating material layer provided on the substrate, wherein the insulating material layer has a plurality of partially exposed metal oxide particles on its surface and a plurality of enclosed metal oxide particles.

3. (Currently Amended) ~~An electron source forming~~ The substrate structure according to Claim 2, wherein the plurality of enclosed metal oxide particles form a metal oxide particle layer in the insulating material layer ~~between the substrate surface and the surface of the insulating material layer.~~

4. (Currently Amended) ~~An electron source forming~~ The substrate structure according to Claim 2, wherein the plurality of enclosed metal oxide particles and the plurality of partially exposed metal oxide particles form a metal oxide particle layer in the insulating material layer ~~between the substrate surface and the surface of the insulating material layer.~~

5. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 2 through 4, wherein the average particle size of the

plurality of metal oxide particles partially exposed on the surface of the insulating material layer is larger than the average particle size of the plurality of metal oxide particles enclosed in the insulating material layer.

6. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 2 through 4, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating material layer is in the range of 50 nm to 70 nm, and wherein the average particle size of the plurality of metal oxide particles enclosed in the insulating material layer is in the range of 6 nm to 40 nm.

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7. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 2 through 4, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the insulating material layer is 60 nm, and wherein the average particle size of the plurality of metal oxide particles enclosed in the insulating material layer is in the range of 6 nm to 40 nm.

8. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 1 and 2, wherein the substrate is one containing sodium.

9. (Amended) ~~An electron source forming~~ The substrate structure according to Claim 8, wherein the insulating material layer is a sodium blocking layer.

10. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 1 and 2, wherein the insulating material layer is an antistatic layer.

11. (Currently Amended) ~~An electron source forming~~ A substrate structure which is a precursor to an electron source, and on which an electron emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; and

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~~provided with an SiO₂ layer provided on a surface of a~~ the substrate,
~~at which surface an electron-emitting device is disposed,~~

wherein the SiO₂ layer has a plurality of partially exposed metal oxide particles on ~~the~~ its surface.

12. (Currently Amended) ~~An electron source forming~~ A substrate structure which is a precursor to an electron source, and on which an electron emitting device of the electron source is to be disposed, the substrate structure comprising:

a substrate; having an electron-emitting device; and

an SiO₂ layer provided on ~~the surface of~~ the substrate,

wherein the SiO₂ layer has a plurality of partially exposed metal oxide particles on its surface, and ~~a plurality of enclosed metal oxide particles.~~

13. (Currently Amended) ~~An electron source forming~~ The substrate structure according to Claim 12, wherein the plurality of enclosed metal oxide particles form a metal oxide particle layer in the SiO₂ layer ~~between the substrate surface and the surface of the SiO₂ layer.~~

14. (Currently Amended) ~~An electron source forming~~ The substrate structure according to Claim 12, wherein the plurality of enclosed metal oxide particles and the plurality of partially exposed metal oxide particles form a metal oxide particle layer in the SiO₂ layer ~~between the substrate surface and the surface of the SiO₂ layer.~~

15. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 12 through 14, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the SiO₂ layer is larger than the average particle size of the plurality of metal oxide particles enclosed in the SiO₂ layer.

16. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 12 through 14, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the SiO₂ layer is in the

range of 50 nm to 70 nm, and wherein the average particle size of the plurality of metal oxide particles enclosed in the SiO₂ layer is in the range of 6 nm to 40 nm.

17. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 12 through 14, wherein the average particle size of the plurality of metal oxide particles partially exposed on the surface of the SiO₂ layer is 60 nm, and wherein the average particle size of the plurality of metal oxide particles enclosed in the SiO₂ layer is in the range of 6 nm to 40 nm.

18. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 11 and 12, wherein the substrate is one containing sodium.

19. (Currently Amended) ~~An electron source forming~~ The substrate structure according to Claim 18, wherein the SiO₂ layer is a sodium blocking layer.

20. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 11 and 12, wherein the SiO₂ layer is an antistatic layer.

21. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 1, 2, 11 and 12, wherein the metal oxide particles are electron conductive oxide particles.

22. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 1, 2, 11 and 12, wherein the metal oxide particles are particles of an oxide of a metal selected from the following metals: Fe, Ni, Cu, Pd, Ir, In, Sn, Sb, and Re.

23. (Currently Amended) ~~An electron source forming~~ The substrate structure according to one of Claims 1, 2, 11 and 12, wherein the metal oxide particles are SiO₂ particles.

B' 24. (Currently Amended) An electron source comprising a substrate structure and an electron-emitting device arranged on the substrate structure, wherein the substrate structure is ~~an electron source forming~~ a substrate structure as claimed in one of Claims 1, 2, 11 and 12.

25. (Original) An electron source according to Claim 24, wherein the electron-emitting device is one provided with an electroconductive film containing an electron-emitting region.

26. (Previously Amended) An electron source according to Claim 24, wherein a plurality of electron-emitting devices are arranged in a matrix wiring composed of a plurality of row-directional wirings and a plurality of column-directional wirings.

27. (Currently Amended) An image display apparatus comprising an envelope, an electron-emitting device arranged in the envelope, and an image display member adapted to display images through application of electrons from the electron-emitting device, wherein a substrate structure on which the electron-emitting device is arranged is ~~an electron source forming a~~ substrate structure as claimed in one of Claims 1, 2, 11 and 12.

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and .
28. (Original) An image display apparatus according to Claim 27, wherein the electron-emitting device is one provided with an electroconductive film containing an electron-emitting region.

29. (Original) An image display apparatus according to Claim 27, wherein a plurality of electron-emitting devices are arranged in a matrix wiring composed of a plurality of row-directional wirings and a plurality of column-directional wirings.